Left Ventricular Assist Device (LVAD) Driveline Infection Rates Between Two Different Dressing Methods

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Abstract
Problem: Heart failure has a growing impact on Americans, and this contributes to an increased number of patients requiring treatment for advanced heart failure. Typical treatment options may include cardiac transplant or the implantation of a left ventricular assist device (LVAD). The use of an LVAD requires sterile management of an external driveline site. Driveline infections are a common complication in this patient population and can lead to chronic complications. There are no published guidelines on the management of the driveline site. This project aimed to provide evidence that can be used in the establishment of standardized guidelines for driveline site care.

Methods: This QI initiative compared driveline infections between two different dressing change protocols at a single midwestern hospital. Data was compared from the years 2017-2021 with the change in dressing protocol occurring in 2019. A retrospective medical record review was conducted, and the data was analyzed using independent sample t-tests to measure significance. A confidence interval of 95% was used.

Results: A bi-weekly dressing change protocol using a pre-packaged kit, clear occlusive dressing, silver-impregnated ring, and driveline stabilization device resulted in a reduction of LVAD driveline infections (with significance p-value <0.001) when compared to the retired method. Further research could be conducted on how patient compliance impacts driveline infections.

Implications for Practice: The results of this QI initiative may be useful in the creation of standardized published guidelines for LVAD driveline site care.

Defense of Dissertation Committee
Diane Saleska, DNP, RN, CHSE Chairperson  
Cathy Koetting, PhD, DNP, APRN, CPNP, PMHS, FNP-C  
Dana Bush, PhD, RN, CNE, CEN